

	Type	L #	Hits	Search Text	DBs
1	BRS	L1	58	(fourier and DNA) and neural	USPAT; EPO; JPO; DERWE NT; IBM
2	BRS	L2	394	fourier and DNA and (pattern or match\$)	TDB USPAT; EPO; JPO; DERWE NT; IBM
3	BRS	L3	59	fourier and DNA and (pattern near2 (recogni\$6 or match\$))	TDB USPAT; EPO; JPO; DERWE NT; IBM

TDB

	Type	L #	Hits	Search Text	DBs
1	BRS	L1	179	DNA adj1 sequence and Fourier	USPAT; EPO; JPO; DERWE NT; IBM
2	BRS	L2	138	L1 and (pattern or match\$4)	USPAT; EPO; JPO; DERWE NT; IBM
3	BRS	L3	46	DNA adj1 sequence and (Fourier same (match\$4 or pattern))	USPAT; EPO; JPO; DERWE NT; IBM
4	IS&R	L4	8	((("5064754") or ("5221518") or ("5073858")).PN:	USPAT; EPO; JPO; DERWE NT; IBM
5	BRS	L5	596	(wavelet or subband) and recognition	USPAT; EPO; JPO; DERWE NT; IBM

IDB

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(FILE 'HOME' ENTERED AT 14:36:26 ON 20 APR 2001)

FILE 'BIOSIS, INSPEC, PATOSWO, SCISEARCH' ENTERED AT 14:39:36 ON 20 APR
2001

L1 9 S FOURIER AND DNA AND SEQUENCE AND PATTERN

NR

L1 ANSWER 6 OF 9 INSPEC COPYRIGHT 2001 IEE
AN 1989:3298851 INSPEC DN A89020390; B89010623; C89015807
TI **DNA sequence analysis by optical pattern**
recognition.
AU ~~Gildner, M.D.~~; Christens-Barry, W.A.; Martin, J.C.; Hawk, J.F. (Dept. of
Phys., Alabama Univ., Birmingham, AL, USA)
SO Proceedings of the SPIE - The International Society for Optical
Engineering (1988) vol.938, p.238-45. 5 refs.
CODEN: PSISDG ISSN: 0277-786X
Conference: Digital and Optical Shape Representation and Pattern
Recognition. Orlando, FL, USA, 4-6 April 1988
Sponsor(s): SPIE
DT Conference Article; Journal
TC Application
CY United States
LA English
AB **DNA sequence** analysis has been demonstrated with
optical **pattern** recognition techniques. New methods to optically
study features of the **DNA** molecular code have been developed by
creating new **DNA sequence** representations. This
research involves representing **DNA** sequences by characters which
have been designed so that their Fourier transform properties
can be used to perform optical searches for nonspecific **sequence**
features. To aid in the design of these characters, a computer simulation
of the optical process was developed. Matched spatial filters (MSF) were
made of important **DNA** features using the new **DNA**
representations and searches performed on **DNA** sequences. The
search results were obtained using optical correlation and studied with
the aid of image processing capabilities on a microcomputer. Topics
discussed are **DNA** features and organization, character design,
and optical **pattern** recognition.
CC A8715H Molecular dynamics, molecular probes, molecular pattern
recognition; A8715B Structure, configuration, conformation, and active
sites at the biomolecular level; B6140C Optical information processing;
C7330 Biology and medicine; C5260B Computer vision and picture processing
CT BIOLOGY COMPUTING; COMPUTERISED **PATTERN** RECOGNITION;
COMPUTERISED PICTURE PROCESSING; DIGITAL SIMULATION; **DNA**;
MOLECULAR BIOPHYSICS; OPTICAL CORRELATION
ST character representation; matched spatial filters; **DNA sequence**
analysis; optical **pattern** recognition; **DNA molecular**
code; Fourier transform properties; optical searches;
nonspecific sequence features; computer simulation; optical
correla